



The City of
ST. LOUIS
STREET AND PARK TREE BENEFITS



No Street Trees versus Street Trees

The above two contrasting forward looking infrared (FLIR) images were taken on 6-7-2011 at 12:14pm (left) and 1:00pm (right). The ambient air temperature reported by the National Weather Service at the time these images were taken was 97°F. The picture to the left has no street trees, while the image to the right does. The FLIR recorded an ambient air temperature for the street with no street trees at 112°F versus 96.3°F recorded for the street with street trees. The FLIR also recorded significantly higher pavement temperatures for the treeless street versus the street with trees.

The FLIR images demonstrate the value of street trees in moderating summer temperatures through their shading effects. The resulting cooler temperatures preserve street surfaces, reduce energy costs and generate healthier and more livable micro (street) and macro environments.

Street Tree Benefits¹

- Inventoried Street Trees: 74,066 • Benefit Value: \$4.4M
- Average Benefit per Tree: \$59.25
- In warm months, City street trees reduce electricity and natural gas use in St. Louis from both shading and climate effects, equal to 5,519 MWh and 157,961 Therms, for a total savings valued at approximately \$439,442.
- City street trees reduce atmospheric CO₂ by a net of 9,441 tons, valued at \$103,411 per year.
- City street trees provide a net air quality improvement valued at \$182,250 per year through the removal and avoidance of air pollutants.
- City street trees intercept 261 million gallons of storm water annually for an average of 3,530 gallons per tree. This benefit is valued at \$1.6M per year.
- City street trees provide an estimated total annual benefit of \$2.1.M associated with property value increases, aesthetics and other less tangible improvements.

¹City of St. Louis, Missouri – Street Tree Resource Analysis
Davey Resource Group – March 2009

Forest Park Tree Benefits²

- Inventoried Street Trees: 15,111 • Benefit Value: \$1.21M
- Average Benefit per Tree: \$80.17
- Park trees reduce atmospheric CO₂ by a net of 1,714.6 tons, valued at \$11,317 per year.
- Park trees provide a net air quality improvement valued at \$21,527 per year through the removal and avoidance of 7.3 tons of air pollutants.
- Park trees intercept 34.7 million gallons of storm water annually. This benefit is valued at \$215,105 per year.

²Forest Park i-Tree Analysis
Davey Resource Group – April 2011

Regional Park Tree Benefits³

Regional parks: Carondelet, Fairground, O’Fallon and Willmore

Forest Park is also a regional park but was analyzed separately.

- **Inventoried Park Trees: 6,355**
- **Average Benefit per Tree: \$28.58**
- **Benefit Value: \$181,685**

³Tree Inventory Data
Forestry Division Park Tree Inventories 2007-2010

The City of St. Louis is home to approximately 120,000 street and park trees. Individually and collectively these trees provide environmental, social, and economic benefits such as: oxygen production, storm water runoff reduction, pollution absorption, erosion control, creation and enhancement of park and recreational spaces, energy cost reduction, climate moderation, shade, aesthetics and increased property values. The Department of Parks, Recreation and Forestry has begun to analyze the city’s street and park tree populations using internal and external sources. The purpose of these efforts is to identify and quantify the importance trees have in improving the environment and quality of life in the City of St. Louis. The analysis indicates that the planting and care of street and park trees results in substantial benefits, and reflects a valuable return on the City’s investment.

For more information about community forestry programs and services offered in the City of St. Louis contact the Forestry Division at 314-613-7200 or visit

www.stlouis-mo.gov/government/parks/forestry

